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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,350	09/23/2003	Yuji Shinkai	117259	3395

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OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

TUGBANG, ANTHONY D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/667,350	SHINKAI, YUJI	
	Examiner	Art Unit	
	A. Dexter Tugbang	3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2006.
- 2a) ☐ This action is **FINAL**.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
4a) Of the above claim(s) 1-24,27,33,34,37 and 38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25,26,28-32,35,36,39 and 40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/17/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. NOTE: To clarify the previous restriction requirement (dated December 15, 2005, noting paragraph 5 of the Election of Species Requirement), Species D directed to Figures 11A – 11C were inadvertently omitted by the examiner. The election of species are corrected as follows.

Species A, Figures 13A-13C;

Species B, Figures 14A-14C;

Species C, Figures 15A-15C; and

Species D, Figures 11A-11C.

Within the invention of Group II-B:

Species D directed to Figures 11A-11C reads on Claims 26 and 32;

Species B directed to Figures 14A-14C reads on Claims 27, 33 and 34; and

Claims 25, 28-30, 35-36, 39 and 40 are generic claims in the invention of Group II-B.

Therefore, the applicant(s) election with traverse of the invention of Group II-B, Species D, Figures 11A-11C, Claims 26 and 32, in the reply filed on February 6, 2006 is acknowledged

The traversal is on the ground(s) that there would no serious burden to examiner all of the invention. This is not found persuasive because the inventions in each of the groups, as well as in each Species, would require non-coextensive searches, each having completely different lines of patentability, requiring different prior art and in some instances, the application of different case law. All of the factors considered would place a serious burden on the examiner to search and examine all of the inventions..

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The requirement is still deemed proper and is therefore made FINAL.

2. Claims 1-24, 27, 33, 34, 37 and 38 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on February 6, 2006.

Specification

3. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.**

Extensive mechanical and design details of apparatus should not be given.

4. The abstract of the disclosure is objected to because the content does not appear to include any of the process steps of the claimed invention (e.g. in either Claim 25 or 31).

Correction is required. See MPEP § 608.01(b).

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5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --A Method of Manufacturing an Ink Jet Head.—.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 25, 26, 29, 31, 32 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Eifuki et al 6,000,127.

Regarding Claim(s) 25, 29, 31 and 35, Eifuki discloses a method (Figures 2A-2C) comprising: disposing a metallic bond (precoating 25) and an epoxy thermosetting resin (e.g. 18) between a terminal (bumps 6 or 7) and a land (electrodes 1 or 2); pressing the land and terminal so that they are brought near each other for discharging at least part of the resin from a gap between the land and the terminal, and bring the metallic bond into contact with the land (see Fig. 2B); and heating the metallic bond and the resin so that the land and the terminal are electrically connected to each other with the metallic bond being disposed in a region between the land and the terminal and a protrusion is made of the thermosetting resin in the connection portion between a main electrode portion and a land, and part of the bond is covered with the resin (see Fig. 2B, and all of which discussed at col. 4, lines 4+).

Regarding Claim(s) 26 and 32, Eifuki further teaches that the protrusion of thermosetting epoxy resin extends outside of the connection portion and surrounds the land, the terminal and the metallic bond (shown in Fig. 2C).

With respect to the process steps being drawn to an ink jet head with all of the associated elements specific to the ink jet head (lines 1-14 of Claim 25 and lines 1-14 of Claim 31), these limitations recited in the preamble of the claims are intended use limitations and have not been given patentable weight since the body of the claims do not depend upon the preamble for completeness and the process steps are able to stand alone. *In re Hirao*, 535 F.2d 67 190 USPQ 15 (CCPA 1976).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 25, 26, 28-32, 35, 36, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiwada 6,270,193 in view of Eifuku et al.

Regarding Claim(s) 28, Hiwada discloses a method of manufacturing an ink jet head comprising: connecting an actuator unit to a printed circuit board (see Figures 4 and 11A-11C).

Regarding Claim(s) 30, 36 and 40, Hiwada alternatively discloses a method of manufacturing an ink jet head including pressure chambers (e.g. 21d) arranged in a matrix in a plane of an ink passage unit (e.g. 21) that includes lands (e.g. 68, 69).

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Regarding Claim(s) 25 and 31, Hiwada further teaches disposing a metallic bond (bumps 64 (in Fig. 11B) and a conductive adhesive (e.g. 65) between a terminal (e.g. 62, 64) and the land (e.g. 68, 69), pressing the land and the terminal, and heating the metallic bond and the conductive adhesive.

Hiwada does not teach that the conductive adhesive is an epoxy thermosetting resin.

Eifuku teaches a bonding process (as noted in paragraph 7 above) that includes an epoxy thermosetting resin for the benefit of improving overall working efficiency (see col. 1, lines 17-25 and lines 59-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Hiwada by utilizing the bonding process including a thermosetting resin, as taught by Eifuku, to advantageously improve the overall working efficiency.

Regarding Claim(s) 39, the parameter of an Anisotropic Conductive Adhesive (ACP) is considered to be effective variable to achieve a desired result through routine experimentation. *In re Aller*, 220, F.2d 454, 105 USPQ 233, 235 (CCPA 1955). Therefore, the limitations drawn to the use of ACP for the thermosetting resin would have been an obvious improvement to one of ordinary skill in the art over Hiwada and Eifuku through routine experimentation.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

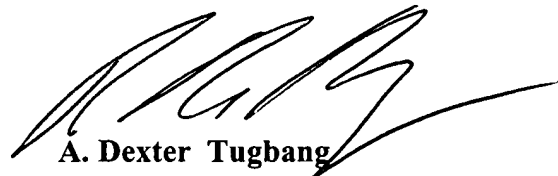
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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 571-272-4570.

The examiner can normally be reached on Monday - Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



A. Dexter Tugbang
Primary Examiner
Art Unit 3729

April 14, 2006